EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	17998	esterase$1	US-PGPUB; USPAT	AND	OFF	2006/10/02 14:00
L2	401	aquifex or pyrophilus	US-PGPUB; USPAT	AND	OFF	2006/10/02 14:00
L3	10	1 same 2	US-PGPUB; USPAT	AND	OFF	2006/10/02 14:04
L4	44	1 near5 thermostab$	US-PGPUB; USPAT	AND	OFF	2006/10/02 14:05

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* * * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 14:18:14 ON 02 OCT 2006

=> fil .bec
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

FILES 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS,
       ESBIOBASE, BIOTECHNO, WPIDS' ENTERED AT 14:18:35 ON 02 OCT 2006
ALL COPYRIGHTS AND RESTRICTIONS APPLY.  SEE HELP USAGETERMS FOR DETAILS.

11 FILES IN THE FILE LIST

=> s esterase#
FILE 'MEDLINE'
L1        24313 ESTERASE#

FILE 'SCISEARCH'
L2        15390 ESTERASE#

FILE 'LIFESCI'
L3         6257 ESTERASE#

FILE 'BIOTECHDS'
L4         2629 ESTERASE#

FILE 'BIOSIS'
L5        46005 ESTERASE#

FILE 'EMBASE'
L6        15863 ESTERASE#

FILE 'HCAPLUS'
L7        36227 ESTERASE#

FILE 'NTIS'
L8          309 ESTERASE#

FILE 'ESBIOBASE'
L9         4674 ESTERASE#

FILE 'BIOTECHNO'
L10        4672 ESTERASE#

FILE 'WPIDS'
L11        3018 ESTERASE#

TOTAL FOR ALL FILES
L12      159357 ESTERASE#

=> s aquifex or pyrophilus
FILE 'MEDLINE'
           264 AQUIFEX
            37 PYROPHILUS
L13         264 AQUIFEX OR PYROPHILUS

FILE 'SCISEARCH'
           352 AQUIFEX
            99 PYROPHILUS
L14         352 AQUIFEX OR PYROPHILUS

FILE 'LIFESCI'
           175 AQUIFEX
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            28 PYROPHILUS
L15        175 AQUIFEX OR PYROPHILUS

FILE 'BIOTECHDS'
            42 AQUIFEX
             8 PYROPHILUS
L16          44 AQUIFEX OR PYROPHILUS

FILE 'BIOSIS'
           363 AQUIFEX
            58 PYROPHILUS
L17        367 AQUIFEX OR PYROPHILUS

FILE 'EMBASE'
           258 AQUIFEX
            37 PYROPHILUS
L18        258 AQUIFEX OR PYROPHILUS

FILE 'HCAPLUS'
           481 AQUIFEX
            71 PYROPHILUS
L19        481 AQUIFEX OR PYROPHILUS

FILE 'NTIS'
             1 AQUIFEX
             1 PYROPHILUS
L20           1 AQUIFEX OR PYROPHILUS

FILE 'ESBIOBASE'
           241 AQUIFEX
            34 PYROPHILUS
L21        241 AQUIFEX OR PYROPHILUS

FILE 'BIOTECHNO'
           141 AQUIFEX
            29 PYROPHILUS
L22        141 AQUIFEX OR PYROPHILUS

FILE 'WPIDS'
            39 AQUIFEX
             9 PYROPHILUS
L23          40 AQUIFEX OR PYROPHILUS

TOTAL FOR ALL FILES
L24       2364 AQUIFEX OR PYROPHILUS

=> s l12 and l24
FILE 'MEDLINE'
L25           1 L1 AND L13

FILE 'SCISEARCH'
L26           0 L2 AND L14

FILE 'LIFESCI'
L27           0 L3 AND L15

FILE 'BIOTECHDS'
L28           2 L4 AND L16

FILE 'BIOSIS'
L29           0 L5 AND L17

FILE 'EMBASE'
L30           0 L6 AND L18
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FILE 'HCAPLUS'
L31             4 L7 AND L19

FILE 'NTIS'
L32             0 L8 AND L20

FILE 'ESBIOBASE'
L33             0 L9 AND L21

FILE 'BIOTECHNO'
L34             0 L10 AND L22

FILE 'WPIDS'
L35             1 L11 AND L23

TOTAL FOR ALL FILES
L36             8 L12 AND L24

=> s l12(5a)thermostab?
FILE 'MEDLINE'
          6982 THERMOSTAB?
L37         31 L1 (5A)THERMOSTAB?

FILE 'SCISEARCH'
          9775 THERMOSTAB?
L38         73 L2 (5A)THERMOSTAB?

FILE 'LIFESCI'
          4209 THERMOSTAB?
L39         31 L3 (5A)THERMOSTAB?

FILE 'BIOTECHDS'
          7087 THERMOSTAB?
L40         62 L4 (5A)THERMOSTAB?

FILE 'BIOSIS'
         10975 THERMOSTAB?
L41         60 L5 (5A)THERMOSTAB?

FILE 'EMBASE'
         13453 THERMOSTAB?
L42         35 L6 (5A)THERMOSTAB?

FILE 'HCAPLUS'
         20949 THERMOSTAB?
L43        108 L7 (5A)THERMOSTAB?

FILE 'NTIS'
           191 THERMOSTAB?
L44          1 L8 (5A)THERMOSTAB?

FILE 'ESBIOBASE'
          4084 THERMOSTAB?
L45         32 L9 (5A)THERMOSTAB?

FILE 'BIOTECHNO'
          6565 THERMOSTAB?
L46         26 L10(5A)THERMOSTAB?

FILE 'WPIDS'
          5360 THERMOSTAB?
L47          7 L11(5A)THERMOSTAB?

TOTAL FOR ALL FILES
L48        466 L12(5A) THERMOSTAB?
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```
=> s l12(10a)(gene/q or nucleic or polynucleotide#)
FILE 'MEDLINE'
        185023 NUCLEIC
          9727 POLYNUCLEOTIDE#
L49        781 L1 (10A)(GENE/Q OR NUCLEIC OR POLYNUCLEOTIDE#)

FILE 'SCISEARCH'
         37816 NUCLEIC
          4408 POLYNUCLEOTIDE#
L50        856 L2 (10A)(GENE/Q OR NUCLEIC OR POLYNUCLEOTIDE#)

FILE 'LIFESCI'
         14100 NUCLEIC
          2093 POLYNUCLEOTIDE#
L51        626 L3 (10A)(GENE/Q OR NUCLEIC OR POLYNUCLEOTIDE#)

FILE 'BIOTECHDS'
         51480 NUCLEIC
         21557 POLYNUCLEOTIDE#
L52        332 L4 (10A)(GENE/Q OR NUCLEIC OR POLYNUCLEOTIDE#)

FILE 'BIOSIS'
         54781 NUCLEIC
          7813 POLYNUCLEOTIDE#
L53       1355 L5 (10A)(GENE/Q OR NUCLEIC OR POLYNUCLEOTIDE#)

FILE 'EMBASE'
         38222 NUCLEIC
          3933 POLYNUCLEOTIDE#
L54        642 L6 (10A)(GENE/Q OR NUCLEIC OR POLYNUCLEOTIDE#)

FILE 'HCAPLUS'
        188125 NUCLEIC
         21707 POLYNUCLEOTIDE#
L55       2327 L7 (10A)(GENE/Q OR NUCLEIC OR POLYNUCLEOTIDE#)

FILE 'NTIS'
          1840 NUCLEIC
           134 POLYNUCLEOTIDE#
L56         15 L8 (10A)(GENE/Q OR NUCLEIC OR POLYNUCLEOTIDE#)

FILE 'ESBIOBASE'
         28441 NUCLEIC
           934 POLYNUCLEOTIDE#
L57        480 L9 (10A)(GENE/Q OR NUCLEIC OR POLYNUCLEOTIDE#)

FILE 'BIOTECHNO'
         19939 NUCLEIC
          1566 POLYNUCLEOTIDE#
L58        561 L10(10A)(GENE/Q OR NUCLEIC OR POLYNUCLEOTIDE#)

FILE 'WPIDS'
         63657 NUCLEIC
         26813 POLYNUCLEOTIDE#
L59        208 L11(10A)(GENE/Q OR NUCLEIC OR POLYNUCLEOTIDE#)

TOTAL FOR ALL FILES
L60       8183 L12(10A)(GENE/Q OR NUCLEIC OR POLYNUCLEOTIDE#)

=> s l48 and l60
FILE 'MEDLINE'
L61         10 L37 AND L49

FILE 'SCISEARCH'
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L62          16 L38 AND L50

FILE 'LIFESCI'
L63           8 L39 AND L51

FILE 'BIOTECHDS'
L64          19 L40 AND L52

FILE 'BIOSIS'
L65          14 L41 AND L53

FILE 'EMBASE'
L66          10 L42 AND L54

FILE 'HCAPLUS'
L67          29 L43 AND L55

FILE 'NTIS'
L68           0 L44 AND L56

FILE 'ESBIOBASE'
L69          12 L45 AND L57

FILE 'BIOTECHNO'
L70           8 L46 AND L58

FILE 'WPIDS'
L71           4 L47 AND L59

TOTAL FOR ALL FILES
L72         130 L48 AND L60

=> s l72 not 2002-2006/py
FILE 'MEDLINE'
       2835793 2002-2006/PY
                 (20020000-20069999/PY)
L73           5 L61 NOT 2002-2006/PY

FILE 'SCISEARCH'
       5217618 2002-2006/PY
                 (20020000-20069999/PY)
L74           5 L62 NOT 2002-2006/PY

FILE 'LIFESCI'
        500908 2002-2006/PY
L75           3 L63 NOT 2002-2006/PY

FILE 'BIOTECHDS'
        122128 2002-2006/PY
L76          11 L64 NOT 2002-2006/PY

FILE 'BIOSIS'
       2490519 2002-2006/PY
L77           6 L65 NOT 2002-2006/PY

FILE 'EMBASE'
       2456999 2002-2006/PY
L78           4 L66 NOT 2002-2006/PY

FILE 'HCAPLUS'
       5379015 2002-2006/PY
L79          13 L67 NOT 2002-2006/PY

FILE 'NTIS'
         71279 2002-2006/PY
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```
L80           0 L68 NOT 2002-2006/PY

FILE 'ESBIOBASE'
       1466541 2002-2006/PY
L81           6 L69 NOT 2002-2006/PY

FILE 'BIOTECHNO'
        244553 2002-2006/PY
L82           6 L70 NOT 2002-2006/PY

FILE 'WPIDS'
       4645299 2002-2006/PY
L83           0 L71 NOT 2002-2006/PY

TOTAL FOR ALL FILES
L84          59 L72 NOT 2002-2006/PY

=> dup rem l84
PROCESSING COMPLETED FOR L84
L85          22 DUP REM L84 (37 DUPLICATES REMOVED)

=> d tot

L85  ANSWER 1 OF 22  HCAPLUS  COPYRIGHT 2006 ACS on STN
TI   Stable biocatalysts for ester hydrolysis
SO   U.S., 133 pp., Cont.-in-part of U.S. Ser. No. 827,810, abandoned.
     CODEN: USXXAM
IN   Allen, Larry; Aikens, John; Demirjian, David; Vonstein, Veronika;
     Fonstein, Michael; Casadaban, Malcolm
AN   2001:279546  HCAPLUS
DN   134:307220
     PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
     --------------      ----   --------    --------------------    --------
PI   US 6218167           B1    20010417    US 1998-58260           19980410
     US 6218163           B1    20010417    US 1996-694078          19960808
     US 5969121           A     19991019    US 1997-781802          19970110

L85  ANSWER 2 OF 22  LIFESCI    COPYRIGHT 2006 CSA on STN DUPLICATE 1
TI   Esterase isozyme polymorphism, specific and nonspecific esterase, syngenic
     lines development and natural occurrence of a thermostable
     esterase in the tropical silkworm Bombyx mori L.
SO   Insect Biochemistry and Molecular Biology [Insect Biochem. Mol. Biol.],
     (20011100) vol. 31, no. 12, pp. 1191-1199.
     ISSN: 0965-1748.
AU   Chattopadhyay, G.K.; Sengupta, A.K.; Verma, A.K.; Sen, S.K.; Saratchandra,
     B.
AN   2002:7658  LIFESCI

L85   ANSWER 3 OF 22  BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
TI    New recombinant DNA molecule comprising a sequence encoding
      feruloyl-esterase protein, useful for treating grasses and
      other plant materials used in pulp and paper industries, feed processing
      and food-additives;
         recombinant thermostable enzyme production
AU    Blum D L; Kataeva I; Li X L; Ljungdahl L G
AN    2000-07617  BIOTECHDS
PI    WO 2000014243 16 Mar 2000

L85   ANSWER 4 OF 22  BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
TI    New esterase, useful for manufacture of medicaments, pesticides and
      bioreactors;
         recombinant thermostable esterase produced by
         recombinant DNA technology and enzyme engineering, used to produce
         medicine and pesticide
AU    Hourai S; Matsuki Y
```

AN 2000-03956 BIOTECHDS
PI EP 969094 5 Jan 2000

L85 ANSWER 5 OF 22 MEDLINE on STN DUPLICATE 2
TI Cloning, overexpression, and properties of a new thermophilic and thermostable esterase with sequence similarity to hormone-sensitive lipase subfamily from the archaeon Archaeoglobus fulgidus.
SO Archives of biochemistry and biophysics, (2000 Jan 1) Vol. 373, No. 1, pp. 182-92.
Journal code: 0372430. ISSN: 0003-9861.
AU Manco G; Giosue E; D'Auria S; Herman P; Carrea G; Rossi M
AN 2000088609 MEDLINE

L85 ANSWER 6 OF 22 HCAPLUS COPYRIGHT 2006 ACS on STN
TI Thermally stable para-nitrobenzyl esterases
SO U.S., 112 pp.
CODEN: USXXAM
IN Arnold, Frances H.; Giver, Lorraine J.
AN 1999:561566 HCAPLUS
DN 131:181656

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5945325	A	19990831	US 1998-62890	19980420

L85 ANSWER 7 OF 22 HCAPLUS COPYRIGHT 2006 ACS on STN
TI Thermostable esterases from thermophilic bacteria and the genes encoding them
SO PCT Int. Appl., 103 pp.
CODEN: PIXXD2
IN Allen, Larry; Aikens, John; Fonstein, Michael; Vonstein, Veronika; Demirjian, David; Casadaban, Malcolm
AN 1998:712368 HCAPLUS
DN 129:327730

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9846770	A2	19981022	WO 1998-US7237	19980410
WO 9846770	A3	19981126		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2286481	AA	19981022	CA 1998-2286481	19980410
AU 9871086	A1	19981111	AU 1998-71086	19980410
EP 1005556	A2	20000607	EP 1998-918096	19980410
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2000511437	T2	20000905	JP 1998-544106	19980410

L85 ANSWER 8 OF 22 MEDLINE on STN DUPLICATE 3
TI Molecular cloning of extremely thermostable esterase gene from hyperthermophilic archaeon Pyrococcus furiosus in Escherichia coli.
SO Biotechnology and bioengineering, (1998 Mar 5) Vol. 57, No. 5, pp. 624-9.
Journal code: 7502021. ISSN: 0006-3592.
AU Ikeda M; Clark D S
AN 1999201038 MEDLINE

L85 ANSWER 9 OF 22 MEDLINE on STN DUPLICATE 4
TI Overexpression and properties of a new thermophilic and thermostable esterase from Bacillus acidocaldarius with

sequence similarity to hormone-sensitive lipase subfamily.
SO The Biochemical journal, (1998 May 15) Vol. 332 (Pt 1), pp. 203-12.
Journal code: 2984726R. ISSN: 0264-6021.
AU Manco G; Adinolfi E; Pisani F M; Ottolina G; Carrea G; Rossi M
AN 1998244829 MEDLINE

L85 ANSWER 10 OF 22 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
TI A novel heat-stable lipolytic enzyme from Sulfolobus acidocaldarius DSM 639 displaying similarity to polyhydroxyalkanoate-depolymerases; esterase Est1 gene cloning and enzyme characterization
SO FEMS Microbiol.Lett.; (1998) 167, 1, 69-73
CODEN: FMLED7 ISSN: 0378-1097
AU Arpigny J L; Jendrossek D; Jaeger K E
AN 1999-11789 BIOTECHDS

L85 ANSWER 11 OF 22 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
TI New nucleic acid encoding heat stable esterases from thermophilic bacteria; recombinant thermostable esterases for use in pharmaceutical, agricultural or food industries, etc.
AU Robertson D E; Murphy D; Reid J; Maffia A M; Link S; Swanson R V; Warren P V; Kosmotka A; Callen W
AN 1997-11973 BIOTECHDS
PI WO 9730160 21 Aug 1997

L85 ANSWER 12 OF 22 HCAPLUS COPYRIGHT 2006 ACS on STN
TI Cloning of cDNA for and preparation of stereoselective, thermostable esterase of Klebsiella oxytoca
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
IN Nomoto, Shiki; Kuramura, Akiko; Utsura, Kensaku
AN 1997:705999 HCAPLUS
DN 128:20050

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09275982	A2	19971028	JP 1996-91571	19960412

PI

L85 ANSWER 13 OF 22 MEDLINE on STN DUPLICATE 5
TI Isolation, analysis, and expression of two genes from Thermoanaerobacterium sp. strain JW/SL YS485: a beta-xylosidase and a novel acetyl xylan esterase with cephalosporin C deacetylase activity.
SO Journal of bacteriology, (1997 Sep) Vol. 179, No. 17, pp. 5436-41.
Journal code: 2985120R. ISSN: 0021-9193.
AU Lorenz W W; Wiegel J
AN 97431493 MEDLINE

L85 ANSWER 14 OF 22 HCAPLUS COPYRIGHT 2006 ACS on STN
TI Purification and some properties of a thermostable acid esterase from Acidiphilium sp. AIU 409
SO Journal of General and Applied Microbiology (1997), 43(3), 151-156
CODEN: JGAMA9; ISSN: 0022-1260
AU Isobe, Kimiyasu; Wakao, Norio
AN 1997:628371 HCAPLUS
DN 127:216848

L85 ANSWER 15 OF 22 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
TI A thermostable esterase; mutant enzyme produced by enzyme engineering
AN 1995-14811 BIOTECHDS
PI JP 07213280 15 Aug 1995

L85 ANSWER 16 OF 22 MEDLINE on STN DUPLICATE 6
TI Nucleotide sequence of the gene for a thermostable esterase from Pseudomonas putida MR-2068.

SO Bioscience, biotechnology, and biochemistry, (1995 Jul) Vol. 59, No. 7, pp. 1204-7.
Journal code: 9205717. ISSN: 0916-8451.
AU Ozaki E; Sakimae A; Numazawa R
AN 95399993 MEDLINE

L85 ANSWER 17 OF 22 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
TI A DNA fragment having a DNA sequence coding esterase; recombinant thermostable esterase production
AN 1994-08916 BIOTECHDS
PI JP 06105693 19 Apr 1994

L85 ANSWER 18 OF 22 HCAPLUS COPYRIGHT 2006 ACS on STN
TI Novel esterase of Bacillus stearothermophilus
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
IN Yamane, Tsuneo; Ueda, Shunsaku; Amagi, Jusuke; Kugimya, Wataru; Takagi, Hiroaki
AN 1994:528768 HCAPLUS
DN 121:128768

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 06165675	A2	19940614	JP 1992-5037	19920114

L85 ANSWER 19 OF 22 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
TI DNA sequence encoding an esterase; used for stereospecific hydrolysis of carboxylic acid ester to give optically active acid; Pseudomonas putida gene cloning in Escherichia coli
AN 1993-01116 BIOTECHDS
PI EP 513806 19 Dec 1992

L85 ANSWER 20 OF 22 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
TI PURIFICATION AND PROPERTIES OF EXTRACELLULAR LIPASE FROM PSEUDOMONAS-AERUGINOSA EF2.
SO Journal of General Microbiology, (1991) Vol. 137, No. 9, pp. 2223-2230.
CODEN: JGMIAN. ISSN: 0022-1287.
AU GILBERT E J [Reprint author]; CORNISH A; JONES C W
AN 1992:32019 BIOSIS

L85 ANSWER 21 OF 22 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
TI Overproduction of an acetyl-xylan-esterase from the extreme thermophile 'Caldocellum saccharolyticum' in Escherichia coli; xynC gene cloning; plasmid pNZ1600 and plasmid pNZ1447 construction
SO Appl.Microbiol.Biotechnol.; (1990) 34, 2, 214-19
CODEN: EJABDD
AU Luthi E; Jasmat N B; *Bergquist P L
AN 1991-04703 BIOTECHDS

L85 ANSWER 22 OF 22 HCAPLUS COPYRIGHT 2006 ACS on STN
TI Studies of esterase-6 in Drosophila melanogaster. II. The genetics and frequency distributions of naturally occurring variants studied by electrophoretic and heat stability criteria
SO Genetics (1979), 93(2), 461-78
CODEN: GENTAE; ISSN: 0016-6731
AU Cochrane, Bruce J.; Richmond, Rollin C.
AN 1980:125432 HCAPLUS
DN 92:125432

=> d ab 4,5,7,14-19

L85 ANSWER 4 OF 22 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
AB An esterase consisting of at least part of the given 370 amino acid

protein sequence with thermostable esterase activity, is claimed. It may be modified by one or more of the following amino acid substitutions: amino acid 435 substituted by isoleucine; amino acid 240 substituted with alanine; or amino acid 43 substituted with serine. Also claimed is a gene encoding the esterase , a plasmid containing that gene, a host cell transformed by the plasmid, and a means of producing the esterase. These can be used to produce medicines, pesticides and intermediates used to produce them. The enzyme can also be used in ester hydrolysis, synthesis and interchange. The esterase has a high thermostability and shortens the reaction time and promotes the reaction efficiency of ester synthesis and interchange. The host cell may be a yeast, mammal or prokaryotic cell, especially a Chromobacterium. The nucleic acid encoding the esterase has a given 1,110 bp DNA sequence. The plasmid used to express that gene is specifically plasmid pCC43S. (30pp)

L85 ANSWER 5 OF 22 MEDLINE on STN DUPLICATE 2

AB A new esterase gene from the hyperthermophilic archaeon Archaeoglobus fulgidus, reported to show homology with the mammalian hormone-sensitive lipase (HSL)-like group of the esterase/lipase family, was cloned by means of the polymerase chain reaction from the A. fulgidus genome. In order to compare the biochemical properties of this putative hyperthermophilic enzyme with those of the homologous, thermophilic member of HSL group, namely Alicyclobacillus (formerly Bacillus) acidocaldarius esterase 2 (EST2), an overexpression system in Escherichia coli was established. The recombinant protein, expressed in soluble and active form at 20 mg/liter of E. coli culture, was purified to homogeneity and characterized. The enzyme, a 35.5-kDa monomeric protein, was demonstrated to be a B"-type carboxylesterase (EC 3.1.1.1) on the basis of substrate specificity and the action of inhibitors. Among the p-nitrophenyl (PNP) esters tested the best substrate was PNP-hexanoate with K(m) and k(cat) values of 11 +/- 3 microM (mean +/- SD, n = 3) and 1014 +/- 38 s(-1) (mean +/- SD, n = 3), respectively, at 70 degrees C and pH 7.1. Inactivation by diethylpyrocarbonate, phenylmethylsulfonylfluoride, diisopropylfosfofluoridate (DFP), and physostigmine, as well as labeling with [(3)H]DFP, supported our previous suggestion of a catalytic triad made up of Ser(160)-His(285)-Asp(255). The sequence identity with the thermostable A. acidocaldarius EST2 was 42.5%. The enzyme proved to be much more stable than its Alicyclobacillus counterpart. The conformational dynamics of the two proteins were investigated by frequency-domain fluorometry and anisotropy decay and the activity/stability/temperature relationship was discussed.

L85 ANSWER 7 OF 22 HCAPLUS COPYRIGHT 2006 ACS on STN

AB Novel thermostable esterases for industrial use are identified in thermophilic bacteria. Methods and kits for identifying thermostable esterases and for quickly determining their patterns of substrate use are described. The enzymes are characterized and genes encoding them are cloned and expressed. Two esterases (E100 and E101) were identified in Thermus sp. T351. The two enzymes had different substrate preferences but were both inhibited by PMSF. A total of 20 thermostable esterases were identified in a number of incompletely characterized thermophilic bacteria. Most of the enzymes had a temperature optimum of 45° and were active at near-neutral pH's. Genes were cloned by expression from a Sau3A partial digest library in λZAP by overlaying phage plates with an agar containing a chromogenic esterase substrate.

L85 ANSWER 14 OF 22 HCAPLUS COPYRIGHT 2006 ACS on STN

AB Extracellular and cell-bound esterases produced by Acidiphilium sp. AIU 409 were homogeneously purified from culture broth and cells, resp., and some properties were investigated. Both esterases more rapidly hydrolyzed p-nitrophenyl acyl esters containing long-chain fatty acids from C8:0 to C18:0

than those containing short-chain fatty acids from C2:0 to C6:0. The Km values for p-nitrophenyl long-chain fatty acid esters from C8:0 to C18:0 were approx. 1.3-1.5 mM. The enzymes were stable at 50° for 2 days between pH 3.0 and 6.5, and the optimum pH and temperature were 5.0 and 70°, resp. Enzyme activity was inhibited by phenylmethylsulfonyl fluoride and SDS. The mol. weight of both enzymes was estimated to be .apprx.64 kDa by SDS-PAGE. The N-terminal sequence was the same in both enzymes. The results suggested that extracellular esterase might be composed of the same components as cell-bound esterase.

L85 ANSWER 15 OF 22 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
AB A thermostable esterase is claimed containing a site-specific mutation at amino acid 160 and/or 189 of a specified protein sequence; a partial amino acid sequence represents the thermostable esterase activity. Also claimed are: a gene encoding the esterase; a plasmid encoding the gene; a microorganism transformed with the plasmid; and the preparation of a mutant esterase in which the transformed microorganism is cultured for the production of the esterase. The recombinant, thermostable esterase is produced efficiently, and can be used in organic synthesis. In an example, Chromobacterium sp. SC-YM-1 was cultured in a medium containing 1% glucose, 1% yeast extract, 0.1% K2HPO4 and 0.02% MgSO4 at 30 deg. When the OD660 reached 3.4, 2 U/ml of benzylpenicillin was added to the culture, which was continued until the OD660 reached 10. The microorganism was recovered by centrifugation, mixed with Tris buffer, sucrose and lysozyme (EC-3.2.1.17), and incubated at 37 deg for 30 min. SDS and protease-K were added and the mixture was incubated for a further 3 hr. Microorganism DNA was purified and used in the construction of a DNA library, which was screened and subcloned. (16pp)

L85 ANSWER 16 OF 22 MEDLINE on STN DUPLICATE 6
AB The esterase gene (est) of Pseudomonas putida MR-2068 was cloned into Escherichia coli JM109. An 8-kb inserted DNA directed synthesis of an esterase in E. coli. The esterase gene was in a 1.1-kb PstI-ClaI fragment within the insert DNA. The complete nucleotides of the DNA fragment containing the esterase gene were sequenced and found to include a single open reading frame of 828 bp coding for a protein of 276 amino acid residues. The open reading frame was confirmed by N-terminal amino acid sequence analysis of the purified esterase. A potential Shine-Dalgarno sequence is followed by the open reading frame. The esterase activity of the recombinant E. coli was more than 200 times higher than that of parental strain, P. putida MR-2068.

L85 ANSWER 17 OF 22 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
AB A DNA fragment of a specified sequence coding an esterase capable of catalyzing the asymmetric hydrolysis of a carboxylic acid ester of formula (I), where R1 = alkyl, aralkyl or aryl, R2 and R3 = alkyl, n = 1 or 2, is claimed. The DNA fragment is useful for the large-scale preparation of a thermostable esterase. In an example, Pseudomonas putida MR-2068 chromosomal DNA was digested and ligated with plasmid pUC19. Escherichia coli JM109 was reacted with the ligand and strains having recombinant plasmids containing the inserted structural esterase gene were selected. The transformant was cultured and the recombinant plasmid was designated plasmid pPE101. The esterase structural gene DNA sequence was determined. The thermostabilities of Pseudomonas fluorescens IFO 3018, Pseudomonas putida MR-2068 and Escherichia coli JM109 harboring plasmid pPE116 were examined. The remaining esterase activities after treatment at 70 deg for 3 hr were 30, 100 and 100%, respectively. (13pp)

L85 ANSWER 18 OF 22 HCAPLUS COPYRIGHT 2006 ACS on STN

AB A novel thermostable esterase is produced by B. brevis transformed with the esterase-encoding gene of B. stearothermophilus. The enzyme exhibits a pH optimum 7.5, a temperature optimum 55°, and a mol. weight of29,000 on SDS-PAGE. The esterase is highly specific to the esters containing lower fatty acids.

L85 ANSWER 19 OF 22 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
AB A DNA fragment contains a DNA sequence that encodes an esterase. The esterase is capable of asymmetric hydrolysis of carboxylic acid esters of formula R1-COS-(CH2)n-CHR2-COOR3 to give optically active carboxylic acids of formula R1-COS-(CH2)n-CHR2-COOH. In these formulae, R1 = alkyl, aralkyl or aryl, R2 and R3 = alkyl, and n = 1 or 2. Also claimed are: the esterase; a recombinant plasmid including all or part of the claimed DNA fragment; a bacterial transformant carrying the plasmid; and a method of producing the optically active carboxylic acid and its enantiomer ester by reacting a racemic mixture of carboxylic acid esters with cells of the recombinant bacterium or its cellular products. To obtain the recombinant esterase, chromosomal DNA was prepared from Pseudomonas putida FERM BP-3846 and cloned into plasmid pUC19, and used to transform Escherichia coli JM105 to obtain transformants containing DNA coding for esterase gene expression. The esterase is stable up to 70 deg, the optimum temperature being 60-70 deg. Transformants containing the esterase gene have higher activity than the donor because they contain a high copy number plasmid. (27pp)

=> log y

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